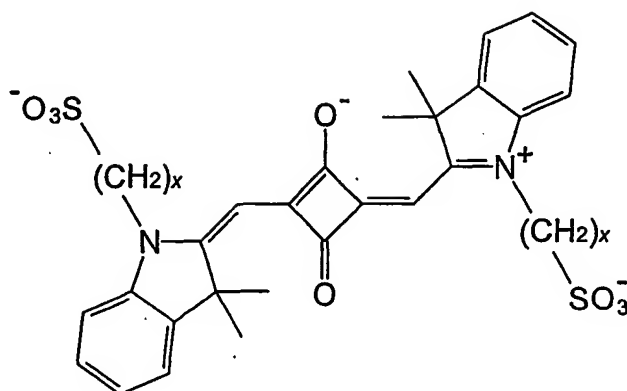


Claims

1. A water-soluble photoluminescent compound including a symmetrical skeletal structure of the formula

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in which x may represent any integer, and in which the phenyl rings may be substituted.

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2. A photoluminescent compound according to claim 1 wherein $x = 3$.

3. A photoluminescent compound according to claim 1 or claim 2 which is unsubstituted.

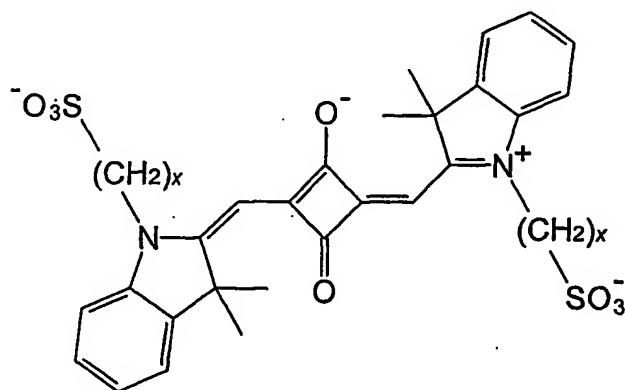
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4. A photoluminescent compound according to claim 1 or claim 2 in which one or both phenyl rings are substituted in the 5-position with alkyl, including ⁱpropyl and ^tbutyl, or halogen groups.

5. A photoluminescent compound according to any of claims 1 to 4 which is 2,4-bis(1-(propan-3-sulfonic acid)-3,3-trimethyl-2-indolinyldenemethyl)cyclobutenediylum-1,3-diolate or any metal or quaternary nitrogen (ie. ammonium, mono-, di- or trialkylammonium, pyridinium etc) salt of the sulfonic acid.

6. A photoluminescent compound substantially as herein described and with reference to the Examples.

7. A protein detector, which comprises a photoluminescent compound including a symmetrical skeletal structure of the general formula



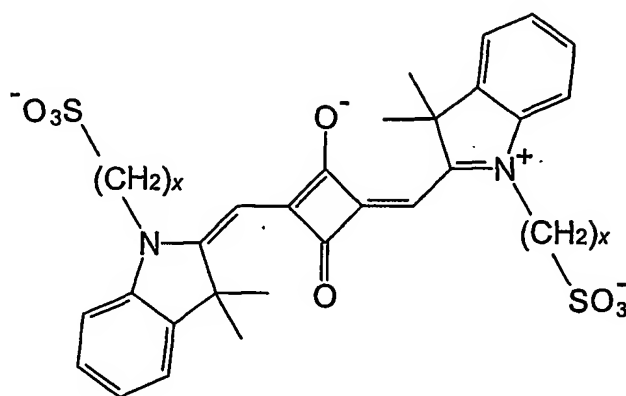
in which x may represent any integer, and in which the phenyl rings may be substituted, in solution in water, at concentrations from 1×10^{-10} to 1 moles per litre.

8. A method for measuring the total dissolved protein content of a fluid sample,

which method includes the steps of:

- (a) dissolving a photoluminescent compound including a symmetrical skeletal structure of the general formula;

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in which x may represent any integer, and in which the phenyl rings may be substituted, in solution in water, at concentrations from 1×10^{-10} to 1 moles per litre.

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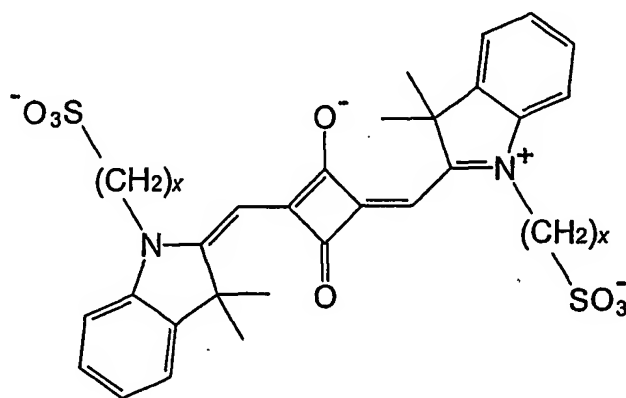
- (b) admixing the solution of step (a) with a test fluid sample;

- (c) measuring the fluorescence of the sample; and

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- (d) comparing the fluorescence with a standard value, to obtain a value for the total dissolved protein content.

9. A method for detecting and / or quantifying proteins separated electrophoretically in a supporting matrix, either in the presence or absence of sodium dodecylsulfate (SDS), that has been fixed in an aqueous / organic / acid mixture comprising aqueous methanol and acetic acid, wherein the matrix is subsequently stained with a photoluminescent compound including a symmetrical skeletal structure of the general formula;



- in which x may represent any integer, and in which the phenyl rings may be substituted, in solution in 10% aqueous methanol or aqueous acetic acid, at a concentration of from 1×10^{-10} to 1 moles per litre, and destained to visualise bands.

10. A method according to claim 9 wherein the supporting matrix is polyacrylamide, agrose or starch.